

## **REMARKS**

In accordance with the foregoing, claims 1, and 11-17, are amended and claims 8 and 9 are cancelled without prejudice. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 3-7 and 10-17 are pending and under consideration. Reconsideration is respectfully requested.

### **REJECTION UNDER 35 U.S.C. §112:**

Claim 17 is amended herewith to clarify the claimed subject matter and overcome the rejection under 35 U.S.C. § 112, second paragraph. No new matter is added.

### **REJECTION UNDER 35 U.S.C. §103:**

Claims 1 and 3-16 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/0198693 to Marusich (hereinafter "Marusich").

Independent claim 1 is amended herewith to incorporate the features originally recited in claims 8 and 9 which are now cancelled. Independent claims 11-16 are amended in a similar manner. No new matter is added.

Amended independent claim 1 clarifies that "the second condition is maintaining an aspect ratio of each of the surfaces of each of the composite cube elements within a predetermined range, each of the composite cube elements has a rectangular parallelepiped shape, and the aspect ratio of each of the surfaces of each of the composite cube elements is a ratio of a length of a first side to a length of a second side of the surface, the first and second sides being orthogonal to each other."

On page 7 of the outstanding Office Action, while referring to the features originally recited in claim 9 cites lines 6-9 in paragraph [0010] of Marusich as describing "the aspect ratio of each of the surfaces of each of the composite cube elements is a ratio of a length of a first side to a length of a second side of the surface, the first and second sides being orthogonal to each other" as recited in original claim 9. Then, the Office Action asserts that the aspect ratio, "is known in the art to be the ratio between horizontal and vertical sides of the mesh elements." Applicants respectfully submit that neither the indicated portion of Marusich nor public knowledge render obvious the recited feature.

Marusich defines the aspect ratio in paragraph [0033] as

An aspect ratio definition begins by taking a smallest possible sphere circumscribed about an element or sub-element where all corner nodes of the element or sub-element fall on the surface of the sphere. A second, largest possible sphere is then inscribed within the element or sub-element where no portion of the sphere falls outside the element or sub-element. The aspect ratio is then defined as the diameter of the circumscribed sphere divided by the diameter of the inscribed sphere.

Marusich's definition of the "aspect ratio" is different from the positively recited definition originally included in claim 9 and for the alleged public knowledge. Marusich's definition of the "aspect ratio" is useful for the modeling deformation problem discussed therein. Even if for the sake of argument only, one accepts that "it would have been obvious to one of ordinary skill in the art at the time of the invention to enable the subdivided mesh surface to include rectangles or cubes commonly known in the art" (see the "Response to Arguments" section on page 15 of the outstanding Office Action), Marusich's definition of the "aspect ratio" should be applied to calculation of "the aspect ration of each of the surfaces if each of the composite cube elements." However, according to U.S. patent practice (see MPEP2143.01 subsections IV and V) a proposed modification should not render the prior art invention being modified in a way which is unsatisfactory for its intended purpose or change its principle of operation. Replacing the definition of "aspect ration" in Marusich with the definition originally recited in claim 9, render Marusich's approach ineffective in solving the deformation problem addressed therein. For at least this reason applicants respectfully submit that claim 1 and claims 3-7 and 10 depending from claim 1 patentably distinguish over Marusich.

Independent claims 11-16 patentably distinguish over the cited prior art at least by reciting "the aspect ratio of each of the surfaces of each of the composite cube elements is a ratio of a length of a first side to a length of a second side of the surface, the first and second sides being orthogonal to each other" which definition applied in Marusich would not be operable.

Independent claim 17 is amended herewith to clarify the claimed subject matter. Evaluation of claim 17's patentability on the merits is respectfully requested.

**CONCLUSION:**

There being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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